Nathaniel A Herbert

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Career Profile

I'm an M.S. level physicist with 3 years experience in software development and 2 years experience specializing in detector and simulation software and high energy collision theory. I have worked in numerous development projects both in and outside of academia across multiple disciplines and have developed programming experience across numerous platforms. **Areas of expertise include:**

- ❏ Python (5+ years)
- ❏ SQL (3 years)
- ❏ C/C++ (1 year)
- ❏ Fortran (1 year)

- ❏ HTML/CSS (1 year)
- ❏ Linux/Bash (2 years)
- ❏ Git (1 year)
- ❏ LaTeX (3 years)

- ❏ Mathematica (5+ years)
- ❏ MATLAB (2 years)

Experience

2017 - 2019 | Cryogenic Dark Matter Search (CDMS) Collaboration | Texas A&M University
- Built a generalized module for calculating recoil parameters for WIMP-nuclei collisions
- Integrated this module into several intertwined systems within a larger simulations framework
- Module and network are built in a combination of C and C++ , validated using ROOT

2016 - 2016 | Faculty Staff Research Scientist | University of Texas at Austin
- Developed and maintained software in C# for the Neutrino Ettore Majorana Observatory (SuperNEMO) Experiment
- Studied, developed numerical calculations, and programmed mathematical models for eddy current modeling on the L.A.R.E.S. satellite in Fortran

2014 - 2016 | Data Services Implementations Engineer | Q2ebanking
- Built and maintained scripts focused on importing and exporting large data sets via batch commands and FTP clients
- Automated nightly processes to parse, manipulate, and import data into separate databases
- Handled communication with internal and external departments to enable smooth transitions

2013 - 2014 | Electrical Engineering Power Systems Assistant | University of Texas at Austin
- Exposed to a wide variety of projects in power systems, specifically focused on the integration of wind energy into the electrical grid
- These projects included research on fault locating techniques, power system simulation programs, time-of-use schedules for electrical vehicles, and several more

2011 - 2012 | Laser Relativity Satellite Temperature Modeling | University of Texas at Austin
- Wrote programs in Mathematica modeling the heat distribution of the L.A.R.E.S. satellite under the guidance of Dr. Phuc Nguyen
- This work assisted in a cooperative effort attempting to test the theory of general relativity

Education

2017 - 2019 | Texas A&M University at College Station | M.S. in Experimental High Energy Particle Physics
Collaboration: Cryogenic Dark Matter Search (SuperCDMS)
GPA: 3.72

2011 - 2014 | University of Texas at Austin | Physics B.S.
Society of Physics: Honors Society   2012-2014
Bachelors of Science Physics Scholarship   2011, 2012, 2013
GPA: 3.44

2010 - 2011 | University of Texas at San Antonio | Physics B.S.
Alpha Lambda Delta Honors Society 2010-2011
GPA: 3.91